

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

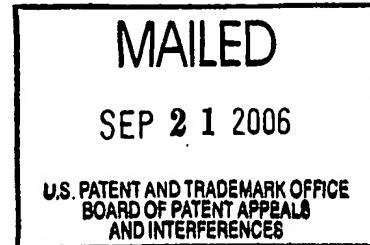
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte JEFFREY P. ERHARDT and SHIVANANDA S. SHETTY

Appeal No. 2006-2326  
Application No. 10/817,300

ON BRIEF



Before BARRY, BLANKENSHIP, and HOMERE, Administrative Patent Judges.

BLANKENSHIP, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1-20, which are all the claims in the application.

We affirm-in-part.

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### BACKGROUND

The disclosed invention relates to methods for analyzing tests of semiconductor devices. (Abstract.) Representative claim 1 is reproduced below.

1. A method for analyzing a semiconductor device comprising:
  - testing a semiconductor device to produce first data and second data;
  - applying a clustering method to the first data to create a clustered first data; and
  - correlating the clustered first data with the second data to determine analyzed data.

The examiner relies on the following references:

Tobin, Jr. et al. (Tobin)	US 5,982,920	Nov. 9, 1999
Leung et al. (Leung)	US 6,397,166 B1	May 28, 2002
Arai et al. (Arai)	US 2002/0145430 A1	Oct. 10, 2002

Claims 1, 2, 5-7, 10-12, 15-17, and 20 stand rejected under 35 U.S.C. § 102 as being anticipated by Tobin.

Claims 3, 8, 13, and 18 stand rejected under 35 U.S.C. § 103 as being unpatentable over Tobin and Leung.

Claims 4, 9, 14, and 19 stand rejected under 35 U.S.C. § 103 as being unpatentable over Tobin and Arai.

We refer to the Final Rejection (mailed Oct. 3, 2005) and the Examiner's Answer (mailed May 5, 2006) for a statement of the examiner's position and to the Brief (filed

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Feb. 27, 2006) and the Reply Brief (filed May 31, 2006) for appellants' position with respect to the claims which stand rejected.

OPINION

The examiner finds that the subject matter of instant claim 1 is anticipated by Tobin. The examiner points to the Abstract and to column 2, lines 40 through 48 of the reference. (Answer at 3.) Tobin is directed to an automated defect spatial signature analysis on a data set representing defect coordinates and wafer processing information. (Abstract.)

These and other objects of the invention are met by providing a method of performing automated defect spatial signature analysis which includes the steps of producing a wafer map which includes data representing defect coordinates and wafer processing information, categorizing the data into a plurality of categories, each containing different types of signature events, and correlating a categorized signature event to a present or incipient anomalous process condition.

Tobin col. 2, ll. 40-48.

**Tobin** thus describes a method for analyzing a semiconductor device comprising: testing a semiconductor device to produce first data (***data representing defect coordinates***) and second data (***data relating to wafer processing information***); applying a clustering method to the first data to create a clustered first data (***categorizing the data, which includes the first data, into a plurality of categories***); and correlating the clustered first data with the second data to determine

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analyzed data (*correlating a categorized signature event to a present or incipient anomalous process condition*). A “*present or incipient anomalous process condition*” is wafer processing information, or “*second data*” in the terms of the claim.

Tobin goes on to provide a detailed description of the invention. However, we agree with the examiner that Tobin’s description of the invention as broadly stated in the summary of the invention in the Abstract and at column 2 is within the broad scope of instant claim 1.

Appellants argue that Tobin fails to describe the invention in the terms of instant claim 1. Appellants’ argument, however, fails to demonstrate error in the rejection for anticipation. For a prior art reference to anticipate in terms of 35 U.S.C. § 102, every element of the claimed invention must be identically shown in a single reference. However, this is not an “*ipsissimis verbis*” test. In re Bond, 910 F.2d 831, 832, 15 USPQ2d 1566, 1567 (Fed. Cir. 1990).

Appellants also submit (e.g., Brief at 11) that “clustering” is well known to the artisan as being directed to specific types of mathematical processes that do not include the “categorizing” described by Tobin. Appellants, however, neither point to any limiting definition for “clustering” in the instant specification nor provide evidence in support of the assertion. Arguments of counsel are not evidence. See, e.g., Meitzner v. Mindick, 549 F.2d 775, 782, 193 USPQ 17, 22 (CCPA 1977); In re Pearson, 494 F.2d 1399, 1405, 181 USPQ 641, 646 (CCPA 1974).

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We have considered all of appellants' arguments in the briefs but are not persuaded of error in the rejection of claim 1.<sup>1</sup> We are cognizant of the differences between the instant disclosed invention and the disclosure of Tobin. However, appellants' arguments seem not to appreciate the actual scope of the claim and are not commensurate with the invention under review. The claims measure the invention. SRI Int'l v. Matsushita Elec. Corp., 775 F.2d 1107, 1121, 227 USPQ 577, 585 (Fed. Cir. 1985) (en banc).

Claims 6, 11, and 16 fall with claim 1, as the claims are not separately argued. See 37 CFR § 41.37(c)(1)(vii).

With respect to the § 102 rejection of claims 2, 7, 12, and 17, appellants admit that the Tobin invention relates to a method and apparatus for spatial signature analysis. (Brief at 14.) Even if claim 2 requires that one claim element is "spatial signature analysis," the claim does not preclude other elements from being or relating to spatial signature analysis. We sustain the rejection of the claims.

Representative claim 5 of claims 5, 10, 15, and 20 requires that the analyzed data is selected from a group that includes correlation. We sustain the rejection for the

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<sup>1</sup> We presume that the numerous unidentified or erroneous citations to decisional law or other authorities in the briefs are not intended to mislead the Board, but they are not helpful in advancing the principle purpose of the briefs -- i.e., to demonstrate error in the rejection. For example, the source of the block quotation near the middle of page 13 of the Brief is not identified. The Brief at page 23 purports what our reviewing court (The Court of Appeals for the Federal Court) "held" in a proceeding called "*In re Gordon*," which is specified only as "supra." Actually, the language that is reproduced at page 23 appears in a magistrate's opinion from the United States District Court for the District of Maryland; i.e., The Laitram Corp. v. Cambridge Wire Cloth Co., 226 USPQ 289, 293 (D.Md. 1985).

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reason that Tobin describes correlating the clustered first data with the second data to determine analyzed data.

The examiner has rejected claims 3, 8, 13, and 18 under 35 U.S.C. § 103 as being unpatentable over Tobin and Leung. Representative claim 3 recites that the clustering method is K-means clustering, for which the rejection relies on Leung. We disagree with appellants' contention (Brief at 17) that Leung's Background of the Invention states that the invention is unrelated to the Tobin automated defect spatial signature analysis of semiconductor wafers. While we agree that Leung relates to retail sales data, appellants' remarks do not show error in the examiner's findings in support of the rejection. We sustain the rejection of claims 3, 8, 13, and 18.

We do not sustain, however, the § 103 rejection of claims 4, 9, 14, and 19 over Tobin and Arai. We agree with appellants that the references do not support the combination proposed by the rejection. While Arai does describe IV curves, the curves relate to discharge characteristics of batteries. In our estimation, the artisan would not have selected the references for the combination proposed absent an improper hindsight reconstruction of the claimed invention.

### CONCLUSION

The rejection of claims 1, 2, 5-7, 10-12, 15-17, and 20 under 35 U.S.C. § 102 as being anticipated by Tobin is affirmed.

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The rejection of claims 3, 8, 13, and 18 under 35 U.S.C. § 103 as being unpatentable over Tobin and Leung is affirmed.

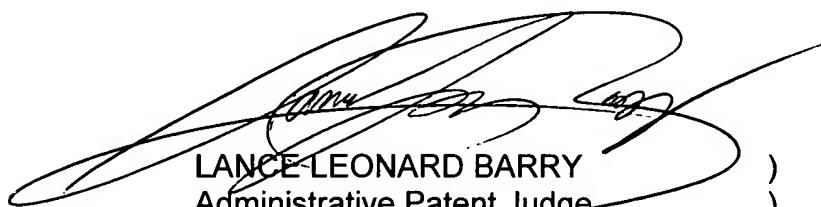
The rejection of claims 4, 9, 14, and 19 under 35 U.S.C. § 103 as being unpatentable over Tobin and Arai is reversed.

The examiner's decision is thus affirmed-in-part.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a). See 37 CFR § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

  
LANCE LEONARD BARRY )  
Administrative Patent Judge )  
HOWARD B. BLANKENSHIP ) BOARD OF PATENT  
Administrative Patent Judge ) APPEALS  
 ) AND  
 ) INTERFERENCES  
  
HOWARD B. BLANKENSHIP )  
Administrative Patent Judge )  
  
JEAN R. HOMERE )  
Administrative Patent Judge )

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